DOCUMENT RESUME

ED 094 856 PS 007 281

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TITLE When Teachers Predict Success in First-Grade Reading.
PUB DATE [73]
NOTE 14p.

EDRS PRICE MF-$0.75 HC-$1.50 PLUS POSTAGE
DESCRIPTORS Caucasians; *Elementary School Students; Expectation; Grade 1; Negroes; *Prediction; *Racial Attitudes; Racial Discrimination; *Reading Level; Socioeconomic Status; Southern Attitudes; Student Behavior; Student Evaluation; Tables (Data); Teacher Attitudes; *Teacher Background; Test Results

ABSTRACT

This study investigated the interaction between teacher background and student variables such as test scores, level of classroom activity and attention, race and socioeconomic class in determining teacher expectancies of reading abilities of first grade children. Participants were 48 female teachers from the South: 24 white and 24 black. The subjects used a 5-point scale to assess the probability that children who had just entered school would be reading at grade level by the beginning of the second grade. The descriptions of 12 children were randomly distributed among the subjects. The description forms were designed to yield specific comparison information on the interactions between the teachers' backgrounds and the student variables. Results indicate that three first order and two second order interactions were found. Discussion of the results focused on the main effect for race of teacher, the interactions involving race of pupil and test score by attention and the second order interactions. The findings in the study allow the conclusion that determinants of teachers' expectancies are quite complex. Also, the findings most salient are those related to the race of the child which suggest a possible racial bias in both black and white teachers' judgments. (SDH)

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When Teachers Predict Success in First-Grade Reading

Edmund H. Henderson

During the first weeks of school, first grade teachers invariably form opinions about their pupils as they observe their classroom behavior. These opinions serve as one important source for decisions about placements into reading groups, which is usually done on the basis of judged ability. Essentially, teachers are predicting reading achievement, and their judgements are found to be just as accurate as readiness tests (Henderson & Long, 1970).

Teachers judgements are not, however, invariably correct. One hypothesis related to the social psychology of the classroom has been that expectancies of teachers about academic performance that are too low may have deleterious effects upon children. Such poor opinions have been proposed as one causal factor for the low performance of disadvantaged black children (Becker, 1952; Wilson, 1963; Clark, 1965). Results of studies where teachers' expectancies have been artificially manipulated (by giving them ability scores for pupils which have been randomly assigned) in order to test this hypothesis have, however, been largely negative (see Baker & Crist, 1971). Why should teachers place more credance upon an experimenter's report of test scores or other false information than upon other evidence available to them in their daily work with their pupils?

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In contrast to this approach is another line of research which has shown that teachers' expectancies affect the way in which a teacher treats a child. Baker and Crist (1971), for example, summarize several studies in which student teachers in a tutoring or microteaching situation "taught more to", "requested more from",

or "spent more time with" those pupils randomly designated as "bright" by experimenters. Similarly, Chaikin and Sigler (1973) have shown that tutors of children arbitrarily labelled "bright" exhibit more positive non-verbal behavior (smiles, nods, etc.) to the children than do tutors of children labelled "dull" or control children not labelled.

In addition, the work of Brophy and Good (1970), carried out in normal classroom settings, showed that the naturally developed expectancies of teachers affect their behavior. Specifically, teachers demanded better performance and were more likely to praise it when dealing with children from whom they expected more. Willis (1970) reported similar findings--"least efficient" learners, as designated by this author as "systematic extinction."

It is the central hypothesis of our studies that teachers' expectancies are of importance to the teacher-pupil relationship and that these expectancies have multiple determinants. As Gibson (1965) among others has suggested, test scores may indeed affect expectancies. Likewise, since white middle-class children generally out-perform those less advantaged (see Coleman et al, 1966), it is not unreasonable to believe that teachers expect more of them. This idea is supported by the Buskin's (1970) findings that the expectancies of student teachers were lower for a child presented (through taped recording) with black dialect than one speaking identical material in standard English. In addition, the classroom behavior of the child would certainly seem likely to affect teachers' expectancies. A recent study in which samples of arithmetic problems (supposedly worked by a child)

as will as IQ's and background information was presented to teachers (Johnson, Baldwin, & Wiley, 1979) suggests that this variable may outweigh other kinds of information.

In an everyday classroom situation, a teacher is ordinarily aware of numerous characteristics for each of his pupils. It would be difficult to determine on a post hoc basis, however, which kind or kinds of information had affected teachers' expectancies, since one could not very well look at one kind of information while holding all others constant. For this reason, then, this study was designed to investigate this question in a laboratory setting, using hypothetical and artificially contrived stimulus children.

The present study is the second in a line of research directed toward the investigation of these questions. In study one (Long and Henderson, 1972), it was found that readiness test scores and classroom behavior (attention and activity) affected white teachers' ratings about the probability of learning to read in the first grade. Race and class of the children per se did not affect the ratings. However, a number of significant interactions between background of teacher (Southern or not) and test score, race, and socioeconomic class of pupils were found. Positive biases toward low-scoring black children were found among white non-Southern teachers, whereas white Southern teachers rated low-scoring blacks lower than low-scoring whites. The present study extends this line of research to include black and white teachers. It was believed that this variable would be a meaningful one in relation to this problem.

Method

Subjects

Subjects were 48 Southern female elementary school teachers attending a summer school at the University of Virginia. All had taught at least two years. Half of the teachers were white (they were randomly selected from the Southern sample of the earlier study) and half were black.

Procedure

Subjects used a five-point scale to assess the probability that children who had just entered school would be reading at grade by the beginning of grade two. The children, all male, and all designated by first name, varied in readiness teat scores (high, average, low), activity (active, passive), and attention (attentive, non-attentive). These three variables were combined into a factoral design (3 X 2 X 2) to provide twelve (12) children. Each level of each variable appeared in the first, second, and third position in the paragraph describing each child an equal number of times. All subjects rated all twelve children in a single random order. Table 1 shows the twelve stimulus children.

(Insert Table 1 about here)

Four forms of the descriptions were randomly distributed among both the black and white teachers, with each subject rating the twelve children on only one form. These forms comprises a 2 X 2 design in which race (white or black) and socioeconomic class (middle or low) of pupil were varied. A subject thus rated the twelve children for one combination of background factors (e.g. black, middle class) and no single subject made racial or class

comparison. The complete design was a 3 X 2^5 factoral, with repeated measures for three of the factors. The data were analysed by the analysis of variance.

Results

Significant main effects were found for teacher race (F-7,9, df-1/40, p-.01), test score (F-135.6, df-2/80, p-.0001) activity (F-39.5, df-1/40, p-.0001), and attention (F-99.9, df-1/40, p-.0001) with the white teachers, higher test scores, higher attention, and higher activity groups evidencing higher mean scores.

Significant first order interactions were found for:

(a) test by race of pupil (F-3.9, df-2/80, p-.02)

(b) test by race of teacher (F-5.8, df-2/80, p-.005)

(c) test by attention (F-14.4, df-2/80, p-.0001)

Two significant second order interactions were found:

(a) test by race of pupil by class (F-4.1, df-2/80, p-.02)

(b) test by activity by attention (F-5.5, df-2/80, p-.006)

The means related to the significant effects are shown in Tables 2, 3, and 4, along with the results of Tukey's hsd test in all cases were more than two means were compared.

Insert Tables 2, 3, and 4 here

Discussion

The main effect for race of teacher derives from the higher expectancies of the white teachers, but this effect is best interpreted in conjunction with the test by teacher-race interaction.

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This effect involved no significant differences between black and white teachers for the average and low test score cells. Black and white teachers differed significantly, however, for the high scoring children, with the white teachers expecting more. Perhaps this effect may be interpreted as a general set on the part of the black teachers involving a tendency to be less confident than the whites regarding the achievement of bright able children. Their experience with low acievement in segregated schools may underlie such a set.

The interactions involving race of pupil (test by race, test by race by class) suggest that among black teachers as well as white in the South a racial bias exists. Such a bias is not, however, directed at all black children, by teachers of either race. Instead, it centers upon two groups--the low scoring black (rated lower than the low-scoring white by teachers of both races) and the low-scoring, low-class black (rated lower than the low-score, low-class white by both black and white teachers). Thus, this study demonstrates a kind of racism, but suggests that such prejudices are not simple, but rather interact with other characteristics of the child, particularly test performance, and socioeconomic class.

The test score by attention interaction appears to derive from the fact that attention has more of an effect with medium and high scores than with low scorerers. It is possible that teachers may have less confidence in the attentive behavior of low-scoring children.

The second-order interaction (test score by activity by attention) is hard to interpret but appears to derive from the low scorers. Here either high attention or high activity, or both, yield more promising predictions than where both activity and attention are low. Tentatively, we interpret this effect as a tendency on the part of teachers to "grasp at straws" in behalf of the low scorers.

The findings of the study as a whole lead one to conclude that the determinants of teachers' expectancies are indeed complex. It is evident that they are affected by a number of different kinds of information including test scores, classroom behavior, and background characteristics of the child.

The findings which appear most salient are those related to the race of the child. Low scoring blacks and low scoring lower-class blacks are rated lower than low scoring whites and low scoring lower-class whites respectively, by both black and white teachers.

Such judgements may indeed be realistic; but in fact they need not be, Hopefully, test performance and the conditions associated with poverty are characteristics in contrast to color of skin, that are amenable to social action. Thus, while demonstrating racism among black and white teachers alike, this study also renders empirical support for remedial programs, whether these be directed at the conditions of poverty or at the educational deficits associated with it.

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TABLE 1

The Twelve Stimulus Children

1. Bob: Bob is an active child who explores experiences eagerly and enters into discussions. He listens well and usually follows directions. His readiness scores are above average.
2. Ed: Ed is a quiet child and tends to be somewhat passive. He often sits and watches the other children play. His readiness scores are above average. He does not follow directions too well--does not seem to pay attention.
3. Joe: Joe talks very little and does not play with the others. He is quiet and shy. His readiness scores are below average. He usually follows directions and does as he is told.
4. Bill: Bill does as he is told. He listens and follows directions. His readiness scores are just average. He is a shy, somewhat passive, quiet child.
5. Dick: Although Dick is a busy person, always on the go, he listens and does as he is told. His readiness scores are below average.
6. Dave: Dave's readiness scores are average. He does not follow directions well and needs frequent reminding about what to do. He tends to be somewhat lethargic, talks very little and does not play.
7. Tom: Tom's scores for readiness are above average. He does not seem to listen or pay attention, and as a consequence, follows directions poorly. He is an active, busy person, who talks a lot and explores new things eagerly.

8. Ralph: Ralph needs constant reminding to complete a task. He is a quiet child who seldom talks or plays with others. His readiness scores are below average.

9. Fred: Fred minds well--he listens and does as he is told. He talks a lot and enters into discussions readily. On the whole he is an active exploring type of child. His readiness scores are just average.

10. Charles: Charles's readiness scores are below average. He is an active child who is interested in new experiences and enters discussions eagerly. He does not follow directions too well--he does not seem to listen.

11. John: John does not attend well and has to have directions repeated frequently. His readiness scores are just average. He is an active child who participates in everything. He talks a lot and enters discussions eagerly.

12. Jim: Jim's readiness scores are above average. He is a silent child and tends to watch others rather than participate. He listens when spoken to and follows directions well.

Table 2

Means in Relation to Test Score and Teacher Race

Test Score	Teacher		
	Black	White	Combined
High	3.48A	4.14	3.81
Medium	3.01B	3.33AB	3.17
Low	2.40C	2.50C	2.45
Combined	2.96	3.32	3.14

Note.--Means followed by the same letter are not significantly different by Tukey's hsd test.

Table 3

Means in Relation to Test Score, Race, and Class of Pupil

Class Test score	Pupil Race: Black			White		
	Low	Middle	Both	Low	Middle	Both
High	3.96D	3.63DEF	3.79A	3.81DE	3.83D	3.82A
Medium	3.04GHI	3.19FGH	3.11B	3.29EFG	3.17FGH	3.23B
Low	1.98	2.56I	2.27	2.63HI	2.63HI	2.63
Combined	2.99J	2.79J	3.06C	3.24J	3.21J	3.23C

Note -- Means followed by the same letter are not significantly different by Tukey's hsd test.

Table 4

Means in Relation to Test Score, Activity, and Attention of Pupil

Activity (a) Test Score	Attention (b) High			Low		
	High	Low	Both	High	Low	Both
High	4.69	4.02A	4.35	3.47BC	3.04CD	3.26
Medium	3.94AB	3.50BC	3.72	2.85DE	2.40E	2.63E
Low	2.81DE	2.50E	2.66F	2.73DE	1.75	2.24

Note -- Means followed by same letter are not significantly different by Tukey's hsd test

(a) Combined means in relation to activity: High: 3.42
Low: 2.87

(b) Combined means in relation to attention: High: 3.58
Low: 2.71